

REMARKS

Reconsideration and withdrawal of the rejections made in the present Office Action are respectfully requested, in view of the foregoing amendments and the following remarks.

Summary of Amendments

By the foregoing amendments claims 31, 57 and 59 are amended, whereby claims 31 to 61 are pending. Claims 31 and 59 are independent claims. Claims 31, 57 and 59 have been amended in light of the rejection under 35 U.S.C. § 112, second paragraph (see page 2, second paragraph of the Office Action). In particular, in claims 31, 57 and 59 the term "general" has been deleted. Moreover, in claims 31 and 59 the term "and/or" has been replaced. In addition thereto, the value 0 as meaning for the subscript "n" has been eliminated from claims 31 and 59. It is noted that the amendments to claims 31, 57 and 59 are without prejudice or disclaimer to the prosecution of the unamended claims in one or more divisional and/or continuation applications. Furthermore, any amendments to the claims which have been made in this Amendment, and which have not been specifically noted to overcome a rejection based on prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Summary of Office Action

As an initial matter, Applicants note with appreciation that the claim for foreign priority under 35 U.S.C. § 119 and receipt of a certified copy of the priority document from the International Bureau are acknowledged in the present Office Action.

Applicants also note with appreciation that a duly initialed and signed copy of Form PTO-1449 filed on June 4, 2001 has been returned together with the Office Action.

Claims 31-61 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 31-61 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Ognyanov et al., U.S. Patent No. 6,191,165 (hereafter "OGNYANOV").

Response to Rejection under 35 U.S.C. § 112

Claims 31-61 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the rejection contends that the expressions "general", "and/or", "may be", "can be", "as well as" and "may contain" place no definite limits or boundaries on the claims.

This rejection is respectfully traversed. The terms objected to by the Examiner are

P20670.A04

absolutely conventional in defining a group of related compounds by a general formula and are frequently used in the claims of U.S. patents. In this context, the Examiner's attention is directed to OGNYANOV, i.e., the reference cited in the present Office Action. For example, in claim 1 of OGNYANOV terms like "can be", "can include", "can have" and "can form" are recited more than a dozen times. Accordingly, a person of ordinary skill in the art will readily understand what these terms indicate and will have no problem recognizing the boundaries of a claim reciting these terms.

The terms "general" and "and/or" have been eliminated from the claims, although this should not be taken as Applicants' admission that the corresponding rejections are justified. Rather, the deletion and replacement, respectively, of these terms are made for purposes of advancing the prosecution of this application.

In view of the foregoing, it is respectfully requested that the rejection of claims 31-61 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

Response to Rejection under 35 U.S.C. § 102(e)

Claims 31-61 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by OGNYANOV. According to the rejection, OGNYANOV discloses a compound, i.e., compound B12 in column 52, which allegedly is identical to an instantly claimed compound.

It is respectfully submitted that the amended claims filed herewith do not encompass compound B12 of OGNYANOV. For example, while in said compound B12 the carboxylate functionality is directly attached to the 2-position of the pyrrolidine ring structure, according to the present claims the carboxylate functionality X is separated from the pyrrolidine ring by a group A¹ which is selected from $(-CR^8R^9)_n$, optionally substituted C₃₋₆ cycloalkylene and a combination of these groups, with n = 1, 2, 3 or 4. Accordingly, OGNYANOV does not teach or suggest any compound of formula (I) as defined in the present claims.

In this context it additionally is pointed out that OGNYANOV, while depicting the structures of more than 200 specific compounds, does not appear to teach or suggest a single compound wherein a functional group such as, e.g., a carboxylate functionality is not directly attached to a nitrogen containing ring structure.

Accordingly, OGNYANOV does not disclose any of the claimed subject matter, wherefore withdrawal of the rejection of claims 31-61 under 35 U.S.C. § 102(e) over this document is respectfully requested.

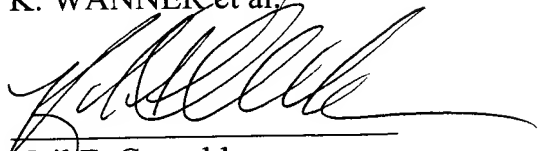
CONCLUSION

In view of the foregoing, it is believed that all of the claims in this application are in condition for allowance, which action is respectfully requested.

P20670.A04

If any issues yet remain which can be resolved by a telephone conference, the Examiner is respectfully invited to contact the undersigned at the number given below.

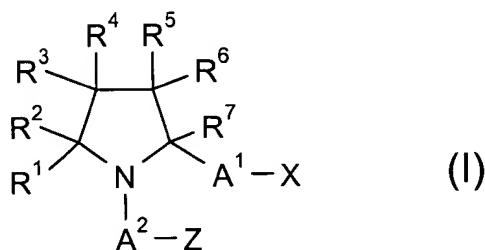
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APPENDIX*Marked-up copy of amended claims*

31. (Amended) A compound of [general] formula (I)



wherein

R^1 to R^7 are independently selected from H, optionally substituted C_{1-6} alkyl, C_{2-6} alkenyl and C_{2-6} alkynyl, optionally substituted aryl or heteroaryl, OH, halogen, CN, OR^{12} , SR^{12} , COR^{12} , $COOR^{12}$, SOR^{12} , SO_2R^{12} , $NR^{13}R^{14}$, $CONR^{13}R^{14}$, $SO_2NR^{13}R^{14}$, where R^{13} and R^{14} are independently selected from H and C_{1-3} alkyl and R^{12} represents C_{1-6} alkyl; two of R^1 to R^7 , together with the atoms connecting them, each may form a 3- to 6-membered ring system, which ring system may contain one or more heteroatoms; [R^1 and R^2 and/or R^3 and R^4 and/or R^5 and R^6] at least one of the pairs R^1 and R^2 ; R^3 and R^4 ; and R^5 and R^6 may be replaced by an optionally substituted alkylidene group or =O; and two of R^1 to R^7 which are positioned at adjacent carbon atoms may each be replaced by a C-C bond;

A^1 is selected from $(-CR^8R^9)_n$, optionally substituted C_{3-6} cycloalkylene and a combination of these groups, R^8 and R^9 being independently selected from H, C_{1-6} alkyl,

P20670.A04

halogen, OH, OR¹² and NR¹³R¹⁴ and where for $n \geq 2$, R⁸ and R⁹ may be different in each group and two groups selected from R⁸ and R⁹ at adjacent C atoms may be replaced by a C-C bond, and a group -O- or -CO- may be positioned between two adjacent groups CR⁸R⁹; and wherein one of R⁸ and R⁹ may be combined with one of R¹ to R⁷ to form a 5- to 7-membered ring structure; and $n = [0,] 1, 2, 3$ or 4;

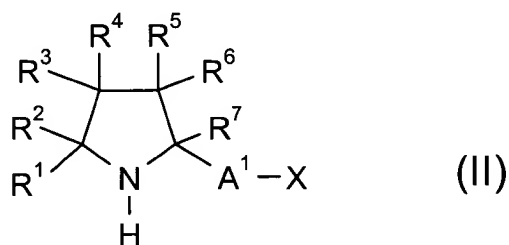
X is selected from COOM and groups which can be converted into COOM under physiological conditions, M being selected from H and pharmaceutically acceptable cations;

A² is $(-CR^{10}R^{11}-)_m$, where R¹⁰ and R¹¹ are independently selected from H, C₁₋₂ alkyl and halogen; where for $m \geq 2$ the groups R¹⁰ and R¹¹ may be different in each group, a group -O- or -S- may be positioned between two adjacent groups -CR¹⁰R¹¹-, and two groups selected from R¹⁰ and R¹¹ at adjacent C atoms may be replaced by a C-C bond; and wherein one of R¹⁰ and R¹¹ may be combined with one of R¹ to R⁹ to form a 5- to 7-membered ring structure; and m is 1, 2, 3, or 4;

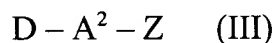
Z is selected from Y₃C-O-, Y₂C=CR¹⁵- and Y₂C=N-O-, where R¹⁵ is selected from H, C₁₋₃ alkyl or halogen and the groups Y are independently selected from optionally substituted C₆₋₁₂ aryl and optionally substituted C₂₋₅ heteroaryl having up to three heteroatoms independently selected from N, O and S, and the groups Y may be linked by a covalent bond or by groups between atoms belonging to different groups Y, said groups selected from -O-, -S-, -NH-, -O-, -CH=CH-, -CH=N-, -CH₂- and -CH₂CH₂-;

as well as the individual stereoisomers of these compounds.

57. (Amended) A process for the preparation of a compound of [general] formula (I) of claim 31, wherein a compound of [general] formula (II)

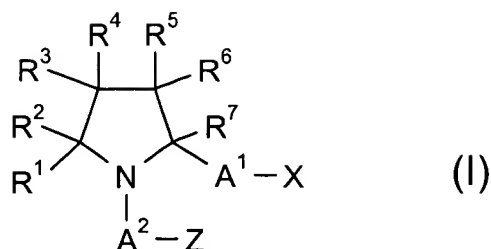


wherein R¹ to R⁷, A¹ and X are as defined in claim 31 is reacted with a compound of [general] formula (III):



wherein A² and Z are defined as in claim 31 and D represents a group which can react with the group N-H of the compound of [general] formula (II) to form HD.

59. (Amended) A pharmaceutical composition comprising at least one of a pharmaceutically acceptable carrier and a pharmaceutically acceptable excipient and at least one compound of [general] formula (I):



wherein

R^1 to R^7 are independently selected from H, optionally substituted C_{1-6} alkyl, C_{2-6} alkenyl and C_{2-6} alkynyl, optionally substituted aryl or heteroaryl, OH, halogen, CN, OR^{12} , SR^{12} , COR^{12} , $COOR^{12}$, SOR^{12} , SO_2R^{12} , $NR^{13}R^{14}$, $CONR^{13}R^{14}$, $SO_2NR^{13}R^{14}$, where R^{13} and R^{14} are independently selected from H and C_{1-3} alkyl and R^{12} represents C_{1-6} alkyl ; two of R^1 to R^7 , together with the atoms connecting them, each may form a 3- to 6-membered ring system, which ring system may contain one or more heteroatoms; [R^1 and R^2 and/or R^3 and R^4 and/or R^5 and R^6] at least one of the pairs R^1 and R^2 ; R^3 and R^4 ; and R^5 and R^6 may be replaced by an optionally substituted alkylidene group or =O; and two of R^1 to R^7 which are positioned at adjacent carbon atoms may each be replaced by a C-C bond;

A^1 is selected from $(-CR^8R^9-)_n$, optionally substituted C_{3-6} cycloalkylene and a combination of these groups, R^8 and R^9 being independently selected from H, C_{1-6} alkyl, halogen, OH, OR^{12} and $NR^{13}R^{14}$ and where for $n \geq 2$, R^8 and R^9 may be different in each group and two groups selected from R^8 and R^9 at adjacent C atoms may be replaced by a C-C bond, and a group -O- or -CO- may be positioned between two adjacent groups CR^8R^9 ; and

P20670.A04

wherein one of R^8 and R^9 may be combined with one of R^1 to R^7 to form a 5- to 7-membered ring structure; and $n = [0,] 1, 2, 3$ or 4 ;

X is selected from COOM and groups which can be converted into COOM under physiological conditions, M being selected from H and pharmaceutically acceptable cations;

A^2 is $(-CR^{10}R^{11}-)_m$, where R^{10} and R^{11} are independently selected from H , C_{1-2} alkyl and halogen; where for $m \geq 2$ the groups R^{10} and R^{11} may be different in each group, a group $-O-$ or $-S-$ may be positioned between two adjacent groups $-CR^{10}R^{11}-$, and two groups selected from R^{10} and R^{11} at adjacent C atoms may be replaced by a $C-C$ bond; and wherein one of R^{10} and R^{11} may be combined with one of R^1 to R^9 to form a 5- to 7-membered ring structure; and m is $1, 2, 3$, or 4 ;

Z is selected from Y_3C-O- , $Y_2C=CR^{15}-$ and $Y_2C=N-O-$, where R^{15} is selected from H , C_{1-3} alkyl or halogen and the groups Y are independently selected from optionally substituted C_{6-12} aryl and optionally substituted C_{2-5} heteroaryl having up to three heteroatoms independently selected from N , O and S , and the groups Y may be linked by a covalent bond or by groups between atoms belonging to different groups Y , said groups selected from $-O-$, $-S-$, $-NH-$, $-O-$, $-CH=CH-$, $-CH=N-$, $-CH_2-$ and $-CH_2CH_2-[:]$.